Program of the Ninth Symposium on Polar Meteorology and Glaciology, held at National Institute of Polar Research, Tokyo, December 11–12, 1986

I. Remote Sensing and Sea Ice

1. Design of a probing radar to a meteorite and simulation of its radar echo character within the ice sheet on the Antarctic continents (2). Mitsuo HOSHIYAMA, Akira NISHITSUJI, Fumihiko NISHIO, Makoto WADA and Okitsugu WATANABE.
2. Determination of water vapor by TOVS of NOAA satellite. Masanobu SHIMIZU, Takashi YAMANOUCHI, Sadao KAWAGUCHI and Takeo YOSHINO.
3. Processes of high sea ice production II—Convection with frazil ice production—. Shuki USHIO and Masaaki WAKATSUCHI.

II. Antarctic Ozone Now Decreasing (i)

1. Antarctic ozone depletion: An introduction. Toshihiro OGAWA.
2. Antarctic ozone change correlated to the stratospheric temperature field. Yoshiro SEKIGUCHI.
3. Characteristics of the Antarctic ozone hole derived from Nimbus 7 TOMS data. A. J. KRUEGER, R. S. STOLARSKI and M. R. SCHOEBERL.
4. Antarctic ozone depletion and vortex movements in 1986. J. C. FARMAN.
5. Changes in Antarctic ozone content—Measurements at Syowa Station. Kouji KONDOH, Yasunobu IWASAKA, Takehiko SUZUKI and Susumu KANETO.
6. Present state of knowledge of some possible health effects due to modification of the ozone layer. Yukio TAKIZAWA.

II. Antarctic Ozone Now Decreasing (ii)

7. Atmospheric nitrogen dioxide in Antarctica. Kazuo SHIBASAKI, Toshihiro OGAWA and Naomoto IWAGAMI.
8. Observation of atmospheric minor constituents by FTIR. Yukio MAKINO, Hisafumi MURAMATSU, Sadao KAWAGUCHI, Takashi YAMANOUCHI, Masayuki TANAKA and Toshihiro OGAWA.
9. Increasing atmospheric concentrations of long-lived halocarbons and methane. Yoshihiro MAKIDE, Yuji KUBO and Takeshi TOMINAGA.
10. Aerosol content changes and their effect on ozone in the Antarctic stratosphere. Yasunobu IWASAKA, G. Y. SHI and Kouji KONDOH.
11. Heterogeneous reactions related to Antarctic ozone hole. Shiro HATAKEYAMA and M. -T. LEU.

II. Antarctic Ozone Now Decreasing (iii)

12. Diabatic circulation and Antarctic ozone. Kohji KAWAHIRA.
13. Upward and downward motion of stratospheric air over Antarctica, derived from the vertical ozone observation at Syowa Station, Antarctica. Shigeru CHUBACHI and Ryoichi KAJIWARA.
14. Transport characteristics in the troposphere and lower stratosphere of the Southern Hemisphere. Koji YAMAZAKI.
15. Examination of mechanism for reductions of Antarctic ozone by the two-dimensional model. To'oru SASAKI.
16. Dynamical factors affecting ozone mixing ratios in the Antarctic lower stratosphere. Masato SHIOTANI, J. C. GILLE and L. V. LYJAK.
17. Annual changes of ozone and wave-mean state in Southern Hemisphere startosphere. Kohji

KAWAHIRA and Toshihiko HIROOKA.

18. How gravity waves affect formation of ozone hole? Hiroshi TANAKA.

II. Antarctic Ozone Now Decreasing: General Discussion

III. Poster Session

1. Internal gravity waves observed by successive launches of meteorological rockets at Syowa Station, Antarctica. Hiroshi KANZAWA and Sadao KAWAGUCHI.
2. Latitudinal distribution of atmospheric CH_4 between Tokyo and Syowa Station late in 1984. Michio HIROTA, Haruta MURAYAMA, Yukio MAKINO and Hisafumi MURAMATSU.
3. Investigation of katabatic wind. Takashi ADACHI.
4. Preliminary observation of cloud using microwave radiometer. Makoto WADA.
5. Determination of sea ice concentration from AVHRR visible and near infrared imagery. Kazuya SUZUKI, Takashi YAMANOUCHI, Masatoshi MATSUSHITA, Masanobu SHIMIZU and Yasuhiko NAITO.
6. Cloud extraction and surface temperature pattern from AVHRR images. Shinya TANAKA, Kazuya SUZUKI, Takashi YAMANOUCHI and Sadao KAWAGUCHI.
7. ^{18}O profiles in the cores from Mizuho Plateau (No. 4). Kikuo KATO.
8. Distribution of 10 m firm temperatures in the East Antarctica. Kazuhide SATOW and Okitsugu WATANABE.
9. Observation method of thick section of deposited. Katutosi TUSIMA and Shinsuke KITA.
10. Growth of polycrystalline snow crystals at the low temperature range. Chuji TAKAHASHI.
11. Snow stratigraphy observed by an active microwave system. Kazuo FUJINO, Masahiro SUZUKI and Tadashi MATSUMOTO.
12. Grouping of ice radar echo (2). Akira NISHITSUJI, Mitsuo HOSHIYAMA, Fumihiko NISHIO, Makoto WADA and Okitsugu WATANABE.
13. Surface features of Antarctic ice sheet. Yoshiyuki FUJII.
14. Atmospheric carbon dioxide variations at Syowa Station, Antarctica. Haruta MURAYAMA, Masayuki TANAKA, Takakiyo NAKAZAWA, Sadao KAWAGUCHI, Takashi YAMANOUCHI, Shuji AOKI and Masataka SHIOBARA.
15. Acquisition of natural remanent magnetization for dirt snow containing rock dusts. Hideo SAKAI and Minoru FUNAKI.
16. Natural remanent magnetization of dirt ice layer collected from Antarctica. Minoru FUNAKI and Hideo SAKAI.

IV. Atmospheric Physics and Constituents

1. Lidar observations of the atmospheric wave-like phenomena in the mesospheric sodium layer in Antarctica. Akio NOMURA, Yasunobu IWASAKA, Hiroshi FUKUNISHI, Takeo HIRASAWA, Sadao KAWAGUCHI and Tetsuo KANO.
2. Neutral wind measurements by Syowa Station meteor radar. Tadahiko OGAWA, Takashi TANAKA, Kiyoshi IGARASHI and Ryoichi FUJII.
3. Variability of moisture field calculated from the aerological data at Syowa Station, Antarctica. Katsumoto SEKO.
4. Atmospheric turbidity at Syowa Station from broad-band pyrheliometry. Toyotaro YAMAUCHI, Goki CHIBA and Koji MATSUBARA.
5. On the molecular form of sulfate particles in the Antarctic atmosphere. Masahiko YAMATO, Yasunobu IWASAKA, Kikuo OKADA, Akira ONO, Fumihiko NISHIO, Masashi FUKABORI and Minoru YOSHIDA.
6. Vertical distribution of mie particles in the Antarctic atmosphere. Yasuhiro MORITA, Yasunobu IWASAKA, Masataka SHIOBARA and Hiroshi KANZAWA.

V. Boundary Layer and Climate

1. The development and the maintenance of the katabatic wind on Mizuho Plateau. Jiro INOUE.

2. On the diurnal variation of the boundary layer in Adelie Land, Antractica. Yuji KODAMA, Nobuyoshi ISHIKAWA and G. WENDLER.
3. Meteorological observations at Advance Camp in East Queen Maud Land, Antarctica. Tokio KIKUCHI and Yutaka AGETA.
4. A trial of automatic weather observation at Asuka Camp Antarctica. Tatsuo ENDO, Sadao KAWAGUCHI, Masashi SANO and Gorow WAKAHAMA.
5. Climatic jump in the polar region (I). Tatsuya IWASHIMA, Ryozaburo YAMAMOTO and Makoto HOSHIAI.
6. On the climatological feature in Adelie Land during austral summer. Nobuyoshi ISHIKAWA, Yuji KODAMA and G. WENDLER.

VI. Snow Crystal

1. Evaporation form of snow crystals at low temperature and their evaporation mechanism. Takehiko GONDA and Takashi SEI.
2. On the eighteen-branched snow crystals. Katsuhiro KIKUCHI and Hiroshi UYEDA.
3. On the snow crystals of low temperature types. Katsuhiro KIKUCHI, Hiroshi UYEDA, Takashi TANIGUCHI and Noboru SATO.

VII. Ice Core and Ice Dynamics

1. Analyses on the Mizuho 700 m deep core. Okitsugu WATANABE, Yoshiyuki FUJII, Fumihiko NISHIO, Shinji MAE, Masayoshi NAKAWO, Hideki NARITA and Kokiti KAMIYAMA.
2. Electric conductivity and microparticles of a 700 m ice core from Mizuho Station. Yoshiyuki FUJII and Okitsugu WATANABE.
3. The behavior of minor elements in snow and ice sheet in Antarctica. Satoru KANAMORI, Nobuko KANAMORI, Masataka NISHIKAWA, Eriko ISA, Okitsugu WATANABE, Fumihiko NISHIO and Kazuhiko OSADA.
4. Effect of orientation and shape of ice crystal on strength of radio echo. Shinji MAE, Minoru YOSHIDA, Hideki NARITA, Masayoshi NAKAWO and Shuji FUJITA.
5. Orientation of the 700 m Mizuho core and its strain history. Shuji FUJITA, Masayoshi NAKAWO and Shinji MAE.
6. Results of measurements in the 700 m bore hole at Mizuho Station, Antarctica. Fumio OKUHIRA, Renji NARUSE, Masayoshi NAKAWO and Kunio KAWADA.
7. Microwave brightness temperature observation of sea ice at the MOS-1 airborne verification experiment. Ken'ichi OKAMOTO and Jun AWAKA.

VIII. Ice Sheet Surface Phenomena

1. The origin of substances occurring in the precipitations in the inland area in Antarctica. Kokichi KAMIYAMA.
2. Estimation of horizontal divergence of drifting snow on Mizuho Plateau, East Antarctica. Shuhei TAKAHASHI.
3. Glaciological characteristics of Antarctic inland plateau. Yutaka AGETA, Fumio OKUHIRA, Kokichi KAMIYAMA and Tokio KIKUCHI.
4. Long-term accumulation free on the inland ice sheet surface, Antarctica. Yoshiyuki FUJII and Hiroshi SATAKE.